EFEKTIVITAS PENGGUNAAN KAPUR TOHOR UNTUK PENGOLAHAN AIR ASAM TAMBANG PIT SANGSANG PT. DIVA KENCANA BORNEO KECAMATAN SILUQ NGURAI KABUPATEN KUTAI BARAT PROVINSI KALIMANTAN TIMUR

INTISARI

Daerah penelitian dilakukan di PT Diva Kencana Borneo yang bergerak di bidang pertambangan batubara. Secara administratif termasuk di wilayah Kecamatan Siluq Ngurai, Kabupaten Kutai Barat Provinsi Kalimantan Timur. Dampak dari proses penambangan adalah timbulnya air asam tambang. Untuk menanggulanginya, dilakukan pengapuran dengan kapur tohor (CaO) pada kolam pengendap lumpur untuk menaikkan nilai pH agar tidak melebihi baku mutu lingkungan.

Penelitian ini bertujuan untuk mempelajari dosis penggunaan kapur tohor yang efektif dalam menetralkan air asam tambang dan mengetahui seberapa besar daya dukung kolam pengendap lumpur dalam pengolahan air asam tambang di Pit Sangsang. Metode yang dilakukan menggunakan metode survei, analisis laboratorium dan metode matematis.

Hasil penelitian menunjukkan penggunaan dosis kapur tohor yang efektif untuk pengolahan air asam tambang di Pit Sangsang yaitu dengan menggunakan kapur tohor sebanyak 2 gr untuk 1 liter air dan dapat menaikkan kadar pada parameter pH dan dapat menurunkan kandungan pada parameter TSS (*Total Suspended Solid*), besi (Fe) dan mangan (Mn) sehingga hasilnya sudah sesuai berdasarkan "Peraturan Daerah No. 2 Tahun 2011 Tentang Baku Mutu Air Limbah Batubara Kalimantan Timur". Adapun volume kolam pengendap lumpur yaitu 4.368 m^3 dan volume *sump* yaitu 2.880 m^3 dengan debit air yang masuk ke kolam pengendap lumpur 131 m^3/jam, sehingga daya dukung kolam pengendap lumpur di Pit Sangsang sudah dapat memenuhi untuk pengolahan air asam tambang.

Kata kunci : air asam tambang, kapur tohor, kolam pengendap lumpur

THE EFFECTIVENESS IN THE USE OF CALCIUM OXIDE TO PROCESSING THE ACID MINE DRAINAGE IN PIT SANGSANG PT. DIVA KENCANA BORNEO, SILUQ NGURAI SUB-DISTRICT, KUTAI BARAT REGENCY, EAST BORNEO PROVINCE

ABSTRACT

The location of research was performed in PT. Diva Kencana Borneo which performed in the coal mining area. Administratively side, the location is includes in the area of Siluq Ngurai sub-district, on Kutai Barat regency, on the province of East Borneo.

The impact of mining process is the emergence of the acid mine drainage. To overcome the emergence, the calcification with calcium oxide was conducted on the settling pond to increase pH value to not exceed the standards of environmental quality.

This research intend to learn about the effective and right dosage in the use of calcium oxide in order to neutralize the acid mine drainage and to know how efficient the settling pond to process the acid mine drainage in Pit Sangsang.

The methods has been performed using survey methods, laboratory analysis and mathematical methods. The result of the research showed that the effective usage of calcium oxide dose in order to processing acid mine drainage in Pit Sangsang is about 2 grams of calcium oxide for every 1 litre of the water which could increase the rate on the parameter of the pH and could reduce the content on the parameter of the Total Suspended Solid (TSS), Iron (Fe) and Manganese (Mn), so that the results could match under the provisions of "The local regulation No.2 year 2011 regarding quality standard of coal waste water in East Borneo (Peraturan Daerah No. 2 Tahun 2011 Tentang Baku Mutu Air Limbah Batubara Kalimantan Timur)". As for the volume of settling pond is 4.368 m^3 and the volume of sump is 2.880 m^3 with the debit of the incoming water in settling pond which is 131 m^3/hour, so that the efficiency of settling pond in Pit Sangsang has meet the provision in order to processing acid mine drainage.

Keyword : acid mine drainage, calcium oxide, settling pond